CLAIMS

What is claimed is:

1. A method of refactoring a plurality of actual resources without alteration into a collection of virtual resources customized to a particular audience, said

5   method comprising:

constructing at least one virtual resource;

connecting at least one actual resource to the at least one virtual

resource;

retrieving the at least one virtual resource; and

10   extracting at least one descriptor from said at least one retrieved virtual

resource.

2. The method of claim 1, wherein said connecting comprises directly

mapping the at least one actual resource to the at least one virtual resource.

3. The method of claim 1, wherein the constructing comprises at least one of:

15   renaming a method; hiding a method; composing a method;

renaming an attribute; hiding an attribute; composing an attribute;

assigning to at least one domain; designating as a collection;

assigning to at least one validator; assigning a description;

designating as at least one of ready and not ready; and

20   assigning a last modified date and time.

4. The method of claim 1, wherein virtual resources are connected to each other through a relationship carrying semantic that can be leveraged by a consumer of resources, comprising:

constructing at least one virtual relationship between at least two

5 virtual resources;

coupling at least one actual relationship implementor to at least one virtual relationship;

performing at least one retrieval of a virtual relationship; and

extracting at least one descriptor from at least one retrieved virtual

10 relationship.

5. The method of claim 4, wherein said coupling comprises:

directly mapping said at least one actual relationship implementor to said at least one virtual relationship.

6. The method of claim 4, wherein the relationship constructing comprises at

15 least one of:

assigning a root virtual resource name;

assigning a target virtual resource name;

assigning a relationship name;

assigning a relationship type;

20 assigning a description;

assigning a target instance naming scheme;

designating as at least one of ready and not ready; and

assigning a last modified date and time;

7. The method of claim 4, wherein the retrieving comprises locating virtual relationships by at least one of:

5   a domain;

a name;

a root;

a type; and

a target.

10   8. The method of claim 1, wherein virtual resources are connected to each other through a model flattening relationship with a semantic meaning of reachability, comprising:

constructing at least one virtual relationship between at least two virtual resources;

15   coupling at least one actual relationship implementor to at least one virtual relationship;

performing at least one retrieval of a virtual relationship; and

extracting at least one descriptor from at least one retrieved virtual relationship.

20   9. The method of claim 8, wherein said coupling comprises:

directly mapping said at least one actual relationship implementor to said at least one virtual relationship.

10. The method of claim 8, wherein the relationship constructing comprises at least one of:

5   assigning a root virtual resource name;

assigning a target virtual resource name;

assigning a relationship name;

assigning a relationship type;

assigning a description;

10   assigning a target instance naming scheme;

designating as at least one of ready and not ready; and

assigning a last modified date and time;

11. The method of claim 1, wherein the retrieving comprises locating virtual resources by at least one of:

15   a domain;

a name; and

a relationship.

12. The method of claim 8, wherein the retrieving comprises locating virtual relationships by at least one of:

20   a domain;

a name;

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a root;

a type; and

a target.

13. The method of claim 2, wherein the descriptor validator information is employed to limit actual resource usage.

14. A system for refactoring a plurality of actual resources without alteration into a collection of virtual resources customized to a particular audience, said system comprising:

means for constructing at least one virtual resource;

means for connecting at least one actual resource to at least one virtual resource;

means for retrieving at least one virtual resource; and

means for extracting at least one descriptor from said at least one retrieved virtual resource.

15. The system of claim 14, wherein said means for connecting comprises means for directly mapping the at least one actual resource to the at least one virtual resource.

16. The system of claim 14, wherein the means for constructing performs at least one of:

renaming a method; hiding a method; composing a method;

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renaming an attribute; hiding an attribute; composing an attribute;

assigning to at least one domain; designating as a collection;

assigning to at least one validator; assigning a description;

designating as at least one of ready and not ready; and

5   assigning a last modified date and time.

17. The system of claim 14, wherein virtual resources are connected to each

other through a relationship carrying semantic that can be leveraged by a

consumer of resources, comprising

means for constructing at least one virtual relationship between at least

10   two virtual resources;

means for coupling at least one actual relationship implementor to at

least one virtual relationship;

means for performing at least one retrieval of a virtual relationship;

and

15   means for extracting at least one descriptor from at least one retrieved

virtual relationship.

18. The system of claim 17, wherein said means for coupling comprises:

means for directly mapping said at least one actual relationship

implementor to said at least one virtual relationship.

20   19. The system of claim 17, wherein the means for constructing at least one

virtual relationship performs at least one of:

assigning a root virtual resource name;

assigning a target virtual resource name;

assigning a relationship name;

assigning a relationship type;

5   assigning a description;

assigning a target instance naming scheme;

designating as at least one of ready and not ready; and

assigning a last modified date and time;

20. The system of claim 14, wherein the means for retrieving performs

10   locating virtual relationships by at least one of:

a domain;

a name;

a root;

a type; and

15   a target.

21. The system of claim 14, wherein virtual resources are connected to each

other through a model flattening relationship with semantic meaning of

reachability, said system further comprising:

means for constructing at least one virtual relationship between at least

20   two virtual resources;

means for coupling at least one actual relationship implementor to at

least one virtual relationship;

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means for performing as least one retrieval of a virtual relationship; and

means for extracting at least one descriptor from at least one retrieved virtual relationship.

5   22. The system of claim 21, wherein said means for coupling comprises:

means for directly mapping said at least one actual relationship implementor to said at least one virtual relationship.

23. The system of claim 21, wherein the means for constructing a relationship comprises at least one of:

10   means for assigning a root virtual resource name;

means for assigning a target virtual resource name;

means for assigning a relationship name;

means for assigning a relationship type;

means for assigning a description;

15   means for assigning a target instance naming scheme;

means for designating as at least one of ready and not ready; and

means for assigning a last modified date and time;

24. The system of claim 21, wherein the means for retrieving comprises locating virtual resources by at least one of:

20   a domain;

a name; and

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a relationship.

25. The system of claim 21, wherein the means for retrieving comprises locating virtual relationships by at least one of:

a domain;

a name;

a root; and

a target.

26. The system of claim 15, wherein the descriptor validator information is employed to limit actual resource usage.

27. In a system comprised of a plurality of actual resources, a service to manage descriptions of said actual resources comprising:

defining at least one virtual domain to satisfy a requirement analysis; and

defining at least one virtual resource describing as least one actual resource within the at least one virtual domain to satisfy the requirement analysis.

28. The service of claim 27, further comprising:

analyzing a requirement for actual resource usage, to provide said requirement analysis.

29. The service of claim 27, further comprising:

      defining at least one virtual relationship between at least two virtual resources.

30. The service of claim 29, wherein at least one of a virtual resource and a virtual relationship are utilized to create an application program.

31. A method of deploying computing infrastructure in which computer-readable code is integrated into a computing system, such that said code and said computing system combine to perform a method of refactoring said actual resources without alteration into a collection of virtual resources customized to a particular audience, said method comprising:

      constructing at least one virtual resource;

      connecting at least one actual resource to at least one virtual resource;

      performing at least one retrieval of a virtual resource; and

      extracting at least one descriptor from said at least one retrieved virtual resource.

32. A signal-bearing medium tangibly embodying a program of machine-readable instructions executable by a digital processing apparatus to perform a method of refactoring said actual resources without alteration into a collection of virtual resources customized to a particular audience, said method comprising:

      constructing at least one virtual resource;

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connecting at least one actual resource to at least one virtual resource;

performing at least one retrieval of a virtual resource; and

extracting at least one descriptor from said at least one retrieved virtual

resource.

5   33. A method of refactoring actual resources without alteration into a

collection of virtual resources customized to a particular audience,

comprising:

providing a structured meta-data layer which contains semantic

information for leveraging by a consumer of the virtual resources.

10   34. The method of claim 33, wherein said semantic information includes

relationships with agreed upon semantics including any of "related-to",

"contains", and "is-conflicting-with", between entities.

35. The method of claim 33, wherein said semantic information allows any

of making new resource manipulation operations available to logic authoring

15   tools and serving as an input to a conflict detection tool

36. The method of claim 1, further comprising:

creating at least one virtual resource instance;

assigning an identity to the at least one virtual resource instance; and

associating the at least one virtual resource instance with one virtual

20   resource.

37. The method of claim 4, further comprising:

creating at least one virtual relationship instance;

assigning an identity to the at least one virtual relationship instance;

and

5   associating the at least one virtual relationship instance with one

virtual relationship.